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THE STRUCTURE OF MEDIATION, COMMUNICATION  
AND RESOLUTION OF CONFLICT

by

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## CHAPTER I

### INTRODUCTION: THE STRUCTURE OF MEDIATION

This chapter is divided into three parts. In section A issues which relate to the structure of mediation are discussed. Some questions are formulated which express at a general level the concerns prompting this study. The literature reviewed in this section suggests that the link between communication and mediation is important. Therefore, in section B, this link is explored more fully. In section C two hypotheses are formulated which represent the explicit problem to be analyzed in this investigation.

#### A. The Structure of Mediation

Mediation<sup>1</sup> is a term that has been used in various fields: the economics of labor relations, the study of international relations, and the sociology of interpersonal and intergroup relations. Within and between formal organizations (i.e. industrial firms and trade unions) mediation can be studied with some degree of ease<sup>2</sup>. In this formal context we tend, therefore, to see mediation as a sort of applied science based upon an accumulated body of tested knowledge, and we assume that one can 'train' a mediator, such that he knows when to enter a dispute, what to say, and when to say it. Much of the literature explicitly addressed to mediation appears in the

economics and sociology of collective bargaining. By and large, this literature assumes that the third party needs to be 'capable' and 'experienced' in mediation (Landsberger, 1956; Manson, 1958; Perez, 1959), suggesting that the role of mediator can be passed on through a formal socialization process.

However, as one shifts to an examination of everyday or informal interpersonal behavior, while "mediation" likewise appears, it is much less well-defined, and there seems to be scant systematic, empirically based knowledge concerning it. Generally, there is no "official" assignment of the role of mediator in such social interaction and, if the role is assumed by a third party, it is often not done with self-conscious intent. Anecdotal evidence abounds. For example, I have seen a family member being brought into the dispute of two other family members (receiving a barrage of information, opinion, communication) solely because he happened to go through the room in which the disputing parties were interacting. Further, I have observed couples and friendship pairs acknowledging their desire to have another party present when conflicting issues arise so that reconciliation is more likely. Douglas (1955) relates that the recruitment of third parties to mediate interpersonal conflicts is more prevalent and perhaps more culturally prescribed outside American society. She states:

"The Middle Easterner, by social requirement, cannot fight with his enemy until the two have first drawn in a third uninvolved person to intervene between them. Once the third party has been engaged -- as the anthropologist put it, "when the opponents feel his hand on the scruff of the neck" -- the fighting begins in earnest. The mere happenstance of the third party's presence in the area -- and he may be anyone in the street who happens around in the vicinity of a pending fight -- places onus on him if he does not intervene and seek to bring a return to peaceful conditions." (p. 650)

In anecdotal or documented cases, such as these, the skills and techniques of interpersonal mediation are not likely to be the result of formal socialization. Rather, the "mere presence" of a third party may affect the situation between contending parties so as to serve objectively the function of mediation, irrespective of the aims and intent of the mediator. By virtue of his objective social location, a third party, "C", may transform a relationship of sharp conflict between persons "A" and "B" into a more moderate "mixed motive" (Schelling, 1960) relationship wherein a mutually satisfactory settlement may be reached through interpersonal negotiation.

In Simmel's (Coser, 1965) and Caplow's (1968) writings on coalition formation, several functions of a third party in a triad are discussed. One such function is termed "tertius gaudens" and refers to a third party who uses the conflict between the other two members of the triad to gain something for himself, as both members compete for his support. "Tertius gaudens" has, in effect, been recently studied as the use of power advantage in interpersonal bargaining. Emerson's theory of exchange networks (1972) clarifies the structural

source of such power advantage, and Stolte's (1972) study produced evidence showing that actor A, by virtue of his central position, relative to actors B and C, and irrespective of his motives, did achieve through the bargaining process profit increases at the expense of actors B and C.

But another function of a third party discussed by Simmel and by Caplow is mediation, where conflict between contending parties is resolved for the collective welfare rather than used for selfish advantage by the third party. If there is a structure of tertius gaudens, based largely on the presence, location and action of a third party, is there also a structure of mediation which can likewise be understood, in part at least, in terms of the presence, location and action of the third party relative to the two disputing parties? Can we clarify at the theoretical and operational levels some important features of the structure of mediation? At a general level, these are two essential questions prompting this study.

Some recent theory and research concerned with the "mere presence" of a third party upon the negotiation process provides some clues about the distinct characteristics of the structure of mediation. It will be useful to review several of the more significant contributions.<sup>3</sup> Ofshe (1971), interested in the effectiveness of the adoption of a pacifist strategy by one member of a competing pair in inducing cooperative behavior, suggests that such effectiveness may, to some extent, be affected by the presence of a third party in the form of

the researcher or audience. Implicit or explicit role expectations undergirded by pay-off sanctions are used to explain third party effects upon effectiveness of a pacifist's appeal. In the same vein, Brown (1968) found that an audience (of peers), which observed the bargaining behavior between two persons and which provided humiliating feed-back to the naive party by expressing the belief that he appeared weak and foolish, served to increase retaliation on the part of the humiliated party. Blood (1960), concerned with the resolution of conflict between marital partners, refers to the more objective and more rational behavior which the third party enables the couple to adopt. Caplow (1968) suggests that an "audience" is always present if it be only in the form of the "larger community" and that the norms of this larger community serve continuously to monitor the interaction between any two parties, be they individuals or groups.

Not only sociologists, but economists, for example, Young (1967) and Meyer (1960), explicitly (but briefly) mention the possibility that the third party by his mere presence serves to mediate a bargaining relationship.

"The mediator is a catalytic agent. The mere presence of an outsider, aside from anything he may say or do, will cause a change, and almost certainly a change for the better, in the behavior of the disputing parties. Rudeness, irritation, and the habit of listening.... these are as vexing as the untenable arguments that accompany them. Progress has been made through the mediator's presence, though that presence has brought nothing more than temperate speech."

(Young, 1967, p. 10)



Further, Maggiolo (1971) suggests that the intercession of a third party in a mediation situation "involves the bringing of disputing parties together, under circumstances and in an atmosphere most conducive to a discussion of the problem in an objective way for the purpose of seeking a solution to the issue or issues involved ...." (p. 10)

#### B. The Importance of Communication

In addition to the structural features (i.e. features based upon the presence, social location, and action of a third party irrespective of his intentions) of mediation emphasized in the theory and research reviewed so far, some concern has centered on the part played by communication in the mediation process. Thus, for example, Maggiolo (1971) has pointed to the importance of circumstances which create an atmosphere conducive to objective, rational discussion. Several other authors have underscored as especially important this link between mediation and communication. Yager (1953) states: "From time to time the suggestion is made that such agencies (mediation) could accomplish their mission more effectively by approaching their work from the point of view that 'communications' is the basic problem involved in disputes ...." (p. 539). Yager goes on to differentiate 'communication' which involves the mechanics of idea exchange from 'communications' involving general semantics. Thus, in the former, the mediator is concerned with information being passed (or blocked) in the communication system. In the latter, the mediator is concerned with

the 'precision' of exchange of information which fluctuates because words are symbols and as such vary in meaning for each individual.

Knowles (1958), in his report "Mediation and the Psychology of Small Groups" also distinguishes two levels of communication -- the objective and the subjective. The objective he describes as "the intellectual level which deals with facts, economics and power relationships". The subjective level "deals with the subconscious emotional and vaguely felt problems of the group". (p. 780) The relevance of the latter problems is that they may be obstacles to the adoption or maintenance of an objective level of communication. This analysis ties in very closely with Yager's 'precision of exchange of information'.

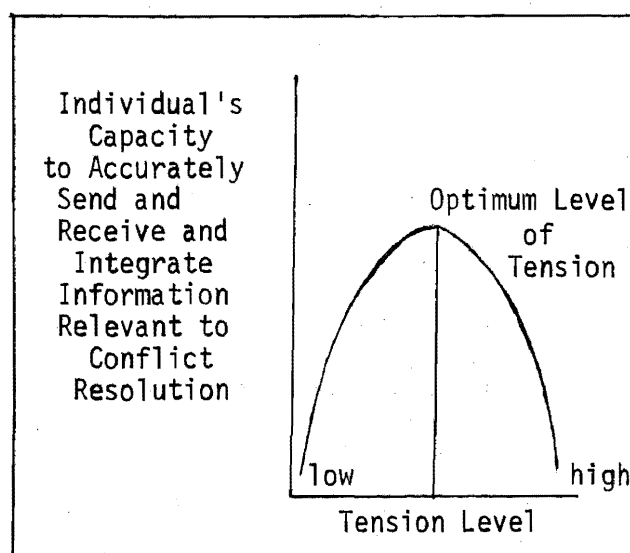
The mediator, it is posited (solely by his presence) alters several of these aspects of communication. Thus, the third party may make for more temperate speech (Young, 1967), act as a sounding board for possible agreements, or serves to regulate communication exchange through what Yager calls the 'mechanics of idea exchange'. Moreover, the third party provides a common base for expectations, attitudes and interpretation of statements, a notion expressed in Yager's idea of 'general semantics'. The third party, Blood (1960) suggests, serves to engender more objective, more rational behavior, a condition which seems close to Knowle's concept of 'objective' level of communication, where the third party presents himself as an outside party, interested in the validity of either party's

contending position. As Maggiolo (1971) says: "Both parties seek to impress him with the validity of their position, cognizant that their expositions must be stripped of partisan trappings. Their appeal to him must at the very least appear logical rather than emotional".

(p. 13) Thus, the third party affects also the subjective level of communication which Knowles refers to.

Independently, Yager and Knowles have arrived at quite similar frameworks concerning levels of communication and the importance of a mediator in facilitating effective communication. A third writer, Richard E. Walton, discusses a unique relationship between mediation, objective communication (in his term 'complex thinking ability to process information') and tension (stress). He suggests that the concept of stress is one of the keys to understanding effective collective bargaining and mediation. Making use of the inverted-U hypothesis, he asserts that "an individual's capacity for complex thinking is altered in a curvilinear fashion as stress increases, and that therefore, the individual's maximum ability to integrate and to utilize information occur at some moderate stress level".

(Walton, 1969, p. 111)



Relevant to our study is the idea that a third party can influence the level of stress.

"If the threat is too low, there is no sense of urgency, no necessity to look for alternative ways of behaving and no incentive for conciliatory overtures.

At a higher threat level, say a moderate level, the person searches for and integrates more information, considers more alternatives, and experiences a higher sense of urgency in changing the situation.

At a high level of threat, the person's ability to process information and perceive alternatives decreases. This can produce rigidity of positions and polarization of adversaries."

(Walton, 1969, p. 112, 113)

There is thus reason to expect that the mediation process operates, in part at least, through facilitating the communication between disputing parties. While the complex dynamics of how mediation operates through communication are an interesting matter of theoretical speculation, our concern at this point is more limited.<sup>4</sup> As we shall see more fully below, this study will limit its attention to a consideration of the effects of variation in the structure of mediation (i.e. the presence, social location and action of a third party) upon amount of communication between negotiators.

### C. Statement of the Problem

This thesis will undertake a limited experimental examination of some structural aspects of mediation. In general, it will focus on the effects of several conditions of intervention by a third party upon the negotiation process between two actors linked in a mixed motive relationship.

Third party intervention can be conceptualized in at least four different ways by varying this party's presence, his display of concern, and his apparent tendency to coalesce with one or the other of the two bargainers. The four conditions of third party intervention chosen for this study are:

- 1.) third party present, not concerned, non-coalescing.
- 2.) third party present, concerned, appearing to coalesce with one bargainer.
- 3.) third party present, concerned, not appearing to coalesce with either bargainer.
- 4.) third party absent.

The specific mode of operationalizing these conditions will be made clear in chapter II. First, however, several theoretical comments are in order. The discussion in Part A above suggested that the structure of mediation implies the presence, action and location of the third party relative to the two contending parties. Our task is to tap relevant dimensions of these broad structural aspects of mediation in a limited, manageable, and fairly precise way. We contend that the four variations listed above accomplish this task. The presence or absence of the third party as well as the display of concern or lack of concern are straightforward dimensions of those features of structure we have labeled presence and action, and these dimensions need not detain us.

However, the third dimension, the appearance of coalition form-

ation between the third party and one or the other bargainer is more complex. For mediation to occur, it may be crucial that the third party remain strictly impartial and non-partisan. (Caplow, 1968; Simmel, 1950, etc.) What we argue here is that the location of the third party, being equidistant between each bargainer or closer to one or the other, may be an important signal of either impartiality or partiality and may thus be an important structural dimension of third party intervention.

In each of the first three conditions of third party intervention listed above the third party need not participate verbally. In the actual research sessions to be discussed below I have limited verbal interaction to the dyad members and have manipulated the relative position and activity of the third party. It is posited that each condition may be potentially mediating, serving to facilitate outcomes which are mutually satisfying to the parties concerned. Each condition may also affect the amount of communication between the dyad members, despite the fact that the disputing parties are unaware that intervention is intended.

The issues advanced above suggest three hypotheses each comprised of two parts:

1.) Condition 3, where the third party is present, concerned, but does not appear to coalesce, will produce: (i) a greater amount of communication; and (ii) increased conflict resolution, than condition 4, where no third party is present.

2.) Condition 3, will produce more communication and more conflict resolution than will condition 2, where the third party is concerned, but appears to coalesce.

3.) Condition 3, will produce more communication and more conflict resolution than will condition 1, where the third party shows no concern with the bargaining.

## CHAPTER II

### METHOD

This chapter describes the method used to collect data for evaluating the three hypotheses listed above. It includes the following sections: (A) subjects, (B) experimental procedures, (C) independent variable, and (D) dependent variables.

#### A. Subjects

In all, sixty-four subjects participated in the research, serving in 32 different bargaining pairs. All the subjects were female (as were the confederates and instructors) and were students from various high school and junior high schools in Thunder Bay, Ontario and Terrace Bay, Ontario. Subjects in grades nine and ten bargained with subjects in those grades; subjects in grades seven and eight bargained with subjects in grades seven and eight.

The students volunteered to participate in what was described as a sociological experiment involving a bargaining game, in which they could win some amount of money. The amount of money was not specified until the subjects were given instructions prior to bargaining.

#### B. Experimental Procedures

During a given experimental session, subjects met for instructions outlining a game of negotiation. The game used was a modified



version of a bargaining game used in a study "Bargaining Power Processes in Exchange Networks" (Stolte, 1972). A sample of the bargaining game instructions and profit schedules is included in the appendix (part B). A subject was unable to accurately assess the profit of his opponent. Both subjects were informed that a choice of 'no agreement' would result in zero profit for both parties. (Bartos in Berger, et al., 1972)<sup>5</sup> It was explained that each subject would be competing against one other subject and that she had two hypothetical commodities which she could exchange for certain hypothetical commodities of another subject. Each transacted agreement was worth profit points to each subject and was potentially worth some amount of money to the subject. The subject was encouraged to maximize her profit points in relation to her partner's. Each subject had a special 'profit schedule'<sup>6</sup> which designated the possible profit points she could achieve by exchanging different amounts of her commodities in return for different amounts of the commodities which the other subject had to exchange. Each subject had access only to her own profit schedule. A bargainer had to obtain profit points greater than her partner's before she could compete for monetary prizes of \$10.00, \$8.00 and \$5.00. In this case, if a bargainer felt that her partner was making more points than she was in a transaction she was encouraged not to make an agreement.

Agreements were negotiated during a fifty-five minute experimental session. Data showing the transactions made, the time of

the transaction, and the profit points achieved were recorded by the subjects on the profit schedule forms.

After five transaction periods (25 minutes) a confederate (from here on referred to as a third party) entered to remind the pair that the five-minute rest period was beginning during which the subjects were to figure out their total profit points up to that point, as well as to figure out the number of agreements that they had transacted.

C. Independent Variable: Third Party Intervention

From this point on, the following variations in third party intervention took place:<sup>7</sup>

1.) Control Third Party (Con): the confederate left the room immediately after the five minute rest period was over.

2.) Unconcerned Third Party (Sil): the confederate remained for the next 25 minutes. She involved herself in some other activity (i.e. reading a book, doing homework) at some distance from the bargaining pair and showed no interest in the bargaining taking place.

3.) Coalescing, Concerned Third Party (Coal): the confederate remained for the next 25 minutes. She took a position beside one subject (this was prearranged) and watched her bargaining schedule.

4.) Non-coalescing, Concerned Third Party (NCC): the confederate remained for the next 25 minutes. She showed an interest in the bargaining taking place and positioned herself equidistant from each bargaining party.

The subjects, during the instructions, had been told that a student might come in to see how the game was played. As well, the third party would explain: "\_\_\_\_\_ (the experimenter) asked me to watch how this game goes so that I can help her with the next session of students coming in". The subjects had signed up for different times in the day so they were aware that other sessions followed theirs. In the Sil condition, the third party would say: "\_\_\_\_\_ (the experimenter) said that I could do some homework (or reading) in here, as all the rooms are being used". The subjects also knew that we were, in fact, short of rooms, so this reason was credible.

All the subjects and the confederates were aware that they could not converse. The only two cases in which a subject spoke to a confederate brought out two distinct reactions to the Coal party. One subject who had the third party beside her commented that she did not like someone watching over her shoulder. The other subject who spoke to the third party, who was 'coalescing' with her, brought on a reaction from the non-coalesced party -- "You're not supposed to talk to her" -- spoken more in a plea of 'she can't give you any help' than as a simple reminder of the rules of the game. Thus, in this one case, it is evident that the intended appearance of coalition was perceived.

#### D. Dependent Variables

The experiment examined the effect of the independent variable discussed above on two dependent variables:

1.) amount of communication in a bargaining relationship, measured in terms of the number of 'offers' made by the contending parties<sup>8</sup>; and

2.) conflict resolution reached through bargaining, measured in terms of the number of mutually satisfying agreements reached by the pair.<sup>9</sup>

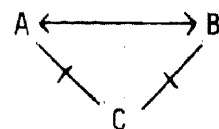
#### E. Experimental Design Summary

In summary, we have four conditions of one independent variable:

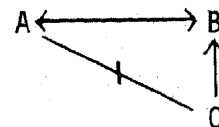
1. absence of a third party (Con)



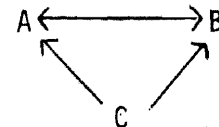
2. unconcerned third party (Sil)



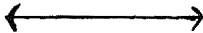

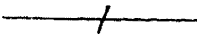
3. coalescing, concerned third party (Coal)



4. non-coalescing, concerned third party (NCC)



(See page 18 for key to above diagrams)

Note:	
	indicates communication between the bargaining parties
	indicates concern shown by the third party for the subject to whom the arrow is directed
	indicates no concern shown by the third party for the bargaining of the particular party

The overall experimental design is portrayed in figure A. There are four conditions of the independent variable (third party intervention): Con, Sil, Coal and NCC. Eight different pairs of subjects bargained under each of these four conditions. Of the pairs, one member used the 'A' profit schedule; the other member used the 'B' profit schedule.

		THIRD PARTY INTERVENTION			
		Con	Sil	Coal	NCC
POSITION -use of various profit schedules	A	8	8	8	8
	B	8	8	8	8

DEPENDENT VARIABLES:

Number of Offers

Number of Agreements

Figure A: Overall Design

The following three hypotheses were tested: (A) the NCC condition will result in the greater amount of communication and in more agreements in relation to the Con condition; (B) the NCC condition will result in a greater amount of communication and more agreements in relation to the Coal condition; and (C) the NCC condition will result in a greater amount of communication and more agreements than the Sil condition. In B and C we are qualifying the term "mere presence" and we are suggesting that the third party must behave in a certain way (concerned and non-coalescing) before there will be a significant increase in communication and agreement.

## CHAPTER III

### RESULTS

In this chapter we present and discuss the experimental findings. Part A provides the findings on communication followed by the findings on conflict resolution. A consideration of the relation of "repetitions" to communication is incorporated in the interpretation of findings in part B.

A two-way analysis of variance was done on all data to compare the behavior of A with B under each condition. Since A and B receive similar treatment under all conditions, with the exception of Coal condition, we do not expect any significant difference between the two parties. If there is any difference we would expect it to be accounted for by the Coal condition.

Having randomly assigned individuals to conditions we presume that the pairs in all conditions are alike. However, we have the pre-treatment data on hand and therefore we will consider the 'change' that occurs from the first half to the second half of the bargaining game. In the future, whenever we are dealing with this change it will be referred to as "change over time".

#### A. (i) Communication: Number of Offers

In a two-way analysis of number of offers (second half) we find

no significant effect of treatment (third party intervention), no significant effect of position ('A' or 'B' position), and no significant interaction effect. (See Table 1.0 and Figure B)<sup>11</sup> However, there is a notable variation between conditions. Con condition resulted in the least mean number of offers while NCC had the greatest mean number of offers, followed by Sil condition, then the Coal condition.

In a two-way analysis of the change in number of offers over time, while there is no significant effect of position nor any significant interaction effect, there is a significant effect of treatment ( $p < .05$ ). (See Table 2.0 and Figure C) This finding suggests that the behavior of the third party does have a definite effect on the change in amount of communication.

A Neuman-Keuls multiple comparison was done on the data to determine where the significance lay. NCC condition was found to be significantly different from both the Con condition ( $p < .05$ ) and the Coal condition ( $p < .05$ ). The Sil condition was not significantly different from any condition.

The definite order that is portrayed by these two analyses gives some support to the prediction that the NCC condition will result in the greatest amount of communication. It also suggests that a third party, irrespective of the presence or absence of concern and/or coalition, will result in a greater amount of communication than the condition in which there is no third party.



Having found a significant effect of conditions on the change in number of offers over time, and an obvious difference between conditions in the number of offers made after the third party has entered the bargaining situation, I would be tempted to suggest that the hypotheses suggested earlier in this paper are finding some support. The NCC condition increases communication significantly more than the Coal and Con conditions. However, simply having a third party in the room in which the bargaining takes place (i.e. Sil condition) is insufficient to increase communication significantly. The closer positioning of and the concern shown by the NCC third party appears to be necessary before the desired change in communication can be effected.

A. (ii) Conflict Resolution: Number of Agreements

An increase in communication does not necessarily imply resolution of conflict as was posited in chapter I. If the number of agreements reached also increases in the same manner as number of offers (or 'change' in number of offers), then the findings on the communications aspect would be more relevant to the prior theoretical analysis. It would give a firmer basis for 'tentatively' predicting that the presence of a NCC third party, by increasing communication between bargaining parties, increases the number of agreements (thus facilitating the effectiveness of the bargaining process).

When we look at the mean number of agreements for conditions (6.875, Con; 6.375, Coal; 5.75, Sil; and 7.0, NCC) the case presented

above seems to hold for the NCC condition. (See Figure D). However, the difference in number of agreements between conditions comes nowhere near significance. (See Table 3.0) One wonders whether a third party merely results in an expenditure of energy (communication) which is uncalled for in light of resolution of conflict.

#### B. Interpretation

Since the number of agreements do not vary significantly between conditions then it may be that the increased communication is merely (i) a reflection of the repetition of a 'staunch' position or (ii) a reflection of movement into areas (possible agreements) which are more and more disagreeable to the other party than earlier offers. This may reflect a decision to avoid agreement while at the same time 'masking' this position (decision) by an appearance of 'trying to agree' -- in the form of increased communication. However, it is important to note that all conditions were nearing the limit in number of agreements. Thus, a more accurate analysis of effect of conditions on resolution of conflict may have been stifled by the structural limitation set on number of agreements.

If the large number of offers in the NCC condition is due to the adoption of a 'staunch' position, this may be reflected in the number of repetition of offers. Considering each pair of subjects, the correlation coefficient between number of offers and number of repetitions is .796 (Pearson Product Moment). This value for a

sample of this size is significantly different from zero at a 1% confidence level. However, despite the magnitude of this correlation, we cannot confidently say that the repetitions alone result in increased communication. If we look at the percentage of the change in number of offers that is accounted for by a change in number of repetition of offers, we find that repetitions are not as significant in explaining increase in number of offers as we might have first assumed. All of the increase in offers in the Con condition can be accounted for by the increase in repetitions, 72% in the Sil condition, and 45% in the Coal condition. Only 40% of the increase in offers in the NCC condition can be accounted for by an increase in repetitions.

In this case it may be enlightening to consider the difference between conditions in number of offers when any repetitions of offers have been excluded. Thus, we set up what will from here on be termed 'number of offers (modified)'. The 'modified' means that for each transaction period, only original offers were included. Repetitions of this original offer were excluded from consideration.

If the NCC condition has a significantly greater number of non-repeated offers (even though it has a high level of repetitions) then the explanation of a 'staunch' position is less tenable to explain the fact that NCC condition does not have a significantly greater number of agreements. The above consideration of percentages of increase in offers accounted for by increase in repetitions hints that this is likely to be the case.

In this analysis (number of offers: modified) and in the following analysis (change in number of offers (modified) over time) we find no significant effect of position nor any interaction effect. In this case, only the effect of conditions will be referred to. There is a significant effect of conditions on number of offers (modified). (See Table 4.0 and Figure E) A Neuman-Keuls multiple comparison shows that NCC is significantly different from Con ( $p < .05$ ).

Similarly, considering the change in number of offers (modified) over time, there is a significant effect of conditions. (See Table 5.0) Again, NCC is significantly different from Con ( $p < .05$ ). NCC increases the number of non-repeated offers from first to second half. Con, on the other hand, tends to decrease the number of non-repeated offers. Since the NCC condition does, in fact, result in more 'non-repeated' (original) offers than the other conditions, we cannot use the explanation involving the adoption of a staunch position to reconcile the findings on communication and agreements.

It is important to note that prior to the research done it was assumed that if communication was increased there would be a corresponding increase in the likelihood of agreement. We assumed that in the case of mediation the maintenance of communication which occurred was associated with all the good aspects of reaching agreement. However, in our research, we found there was little difference between conditions in the mean number of agreements made, despite the significant difference in communication. While this may have resulted from

the ceiling set on number of agreements, it is not so easy to explain one further finding. The correlation between number of agreements and number of offers ( $r = .21$ ) and between number of agreements and number of offers (modified) ( $r = .09$ ) illustrate that number of agreements has little if any relation to number of offers (communication). It might be possible that the restriction of 'communication' to number of offers does not allow us to consider other verbal communication (i.e. "You're crazy.", "I'm starving.") which would be more informational to the subjects and which might have some effect on the reaching of agreements.

It is well to consider Krauss & Deutsch's (1966) comments which suggest that such a situation is quite possible. "It is a common belief that communication between parties in conflict will reduce their conflict. Of course, it is true that conflict can seldom be reduced in the absence of communication. However, this should not be taken to imply that communication will perforce lead to conflict resolution. Conflicting parties can communicate threats as well as offers of conciliation, and communication can, under certain conditions, serve to intensify conflict instead of ameliorating it." (p. 572)

Figure B

mean  
number  
of  
offers

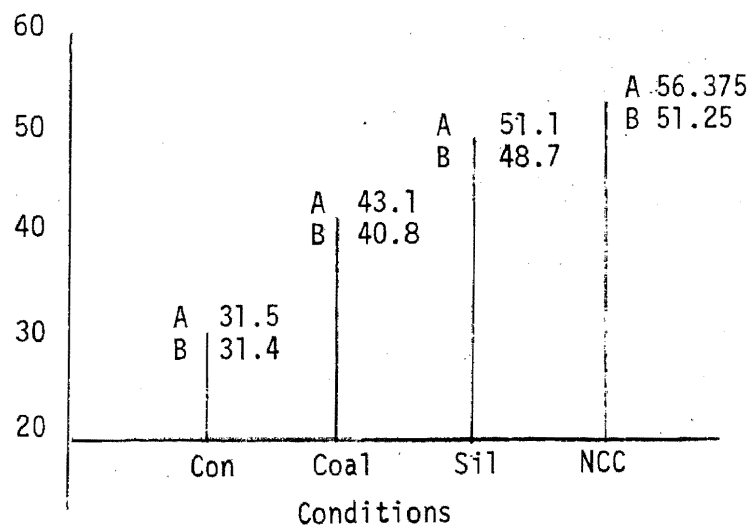


Figure C

mean  
change  
in  
number  
of  
offers

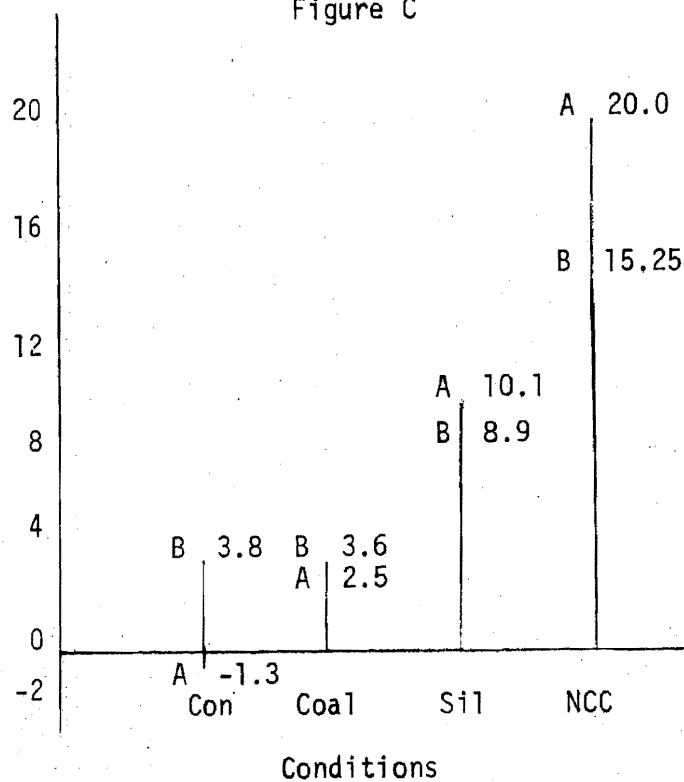


TABLE 1.0 ANALYSIS OF VARIANCE TABLE OF NUMBER OF OFFERS

Source	df	S.S.	m.s.	F
Treatment	3	4692.69	1564.23	2.388
Position ( 'A' or 'B' )	1	95.06	95.06	.15
Interaction	3	55.19	18.4	.03
Error	56	36682.0	655.04	

TABLE 2.0 ANALYSIS OF VARIANCE TABLE OF CHANGE IN  
NUMBER OF OFFERS

Source	df	S.S.	m.s	F
Treatment	3	2636.05	878.68	2.98 *
Position	1	.02	.02	.00005
Interaction	3	201.55	67.18	.228
Error	56	16514.125	294.9	

\*The effect of treatment is significant -- ( $p < .05$ ).

Figure D

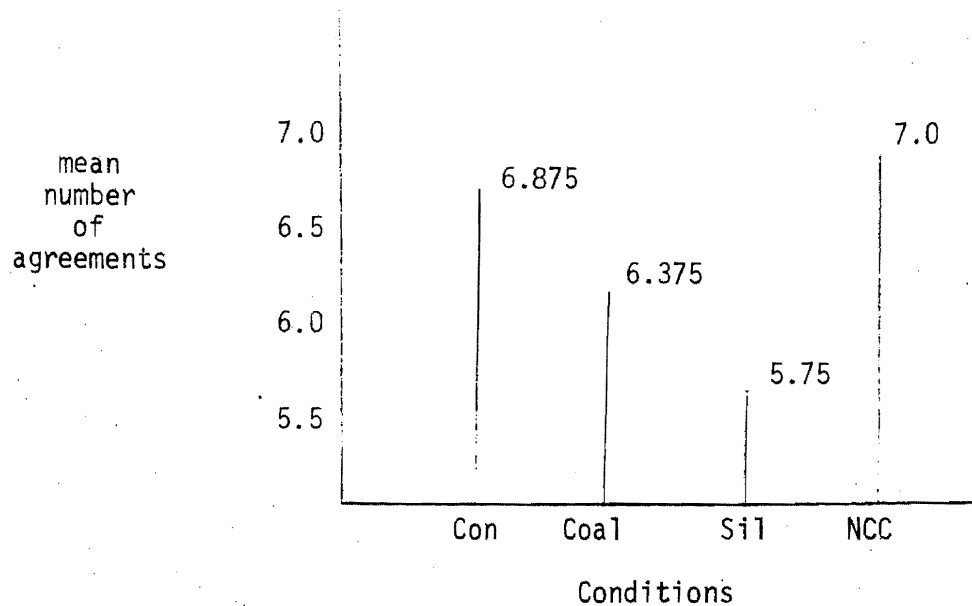


TABLE 3.0 ANALYSIS OF VARIANCE TABLE OF NUMBER OF AGREEMENTS

Source	df	S.S.	m.s.	F
Treatment	3	7.75	2.58	.26
Error	28	278.25	9.94	



Figure E

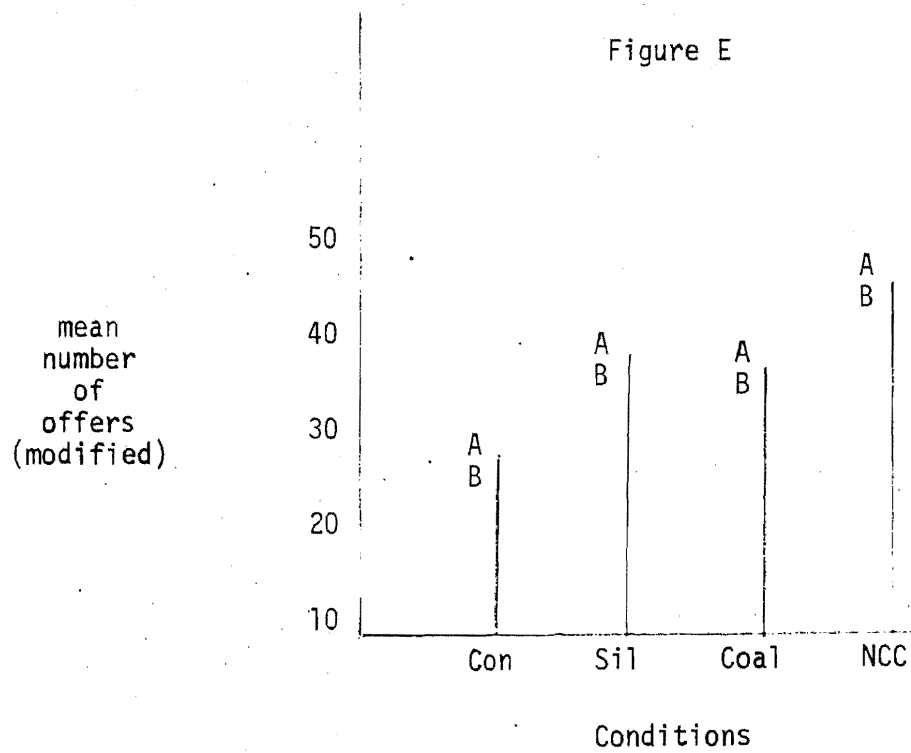


TABLE 4.0 ANALYSIS OF VARIANCE TABLE OF NUMBER OF OFFERS (MODIFIED)

Source	df	S.S.	m.s.	F
Treatment	3	2547.92	849.31	3.65 *
Position	1	112.89	112.89	.48
Interaction	3	64.3	21.4	.09
Error	56	13045.88	232.96	

\*The effect of treatment is significant -- ( $p < .05$ ).

TABLE 5.0 ANALYSIS OF VARIANCE TABLE OF CHANGE IN NUMBER OF OFFERS (MODIFIED)

Source	df	S.S.	m.s.	F
Treatment	3	1146.38	382.13	3.07 *
Position	1	10.56	10.56	.09
Interaction	3	176.81	58.94	.47
Error	56	6950.25	124.11	

\*The effect of treatment is significant -- ( $p < .05$ )

## CHAPTER IV

### DISCUSSION

#### A. Summary and Conclusions

I began this study by suggesting that the 'mediation' situation of third party intervention could be analyzed with a focus on the structural element involved, in much the same way that Emerson (1972) and Stolte (1972) had studied the 'tertius gaudens' situation.

By manipulating the presence or absence of a third party, of concern, and of coalition, four conditions of third party intervention were conceptualized and incorporated in the research design:

- 1.) present, not concerned, non-coalescing (Sil)
- 2.) present, concerned, appearing to coalesce (Coal)
- 3.) present, concerned, not appearing to coalesce (NCC)
- 4.) not present (Con)

Based on ideas presented by various authors in the areas of collective bargaining, mediation, communication and social control I hypothesized that the NCC condition would effect a greater amount of communication and of conflict resolution in relation to the Coal and Sil conditions as well as in relation to the Con condition in which there was no third party present.

Based on the finding of a significant variation in amount of

communication between conditions I feel confident in suggesting that there is, as in 'tertius gaudens', a structure of mediation, which can be understood in terms of the presence, location and action of the third party relative to the disputing parties.

In light of the experimental findings, it seems fairly clear that a third party who is concerned with (or interested in) the bargaining which is occurring and who remains neutral (shows no tendency to coalesce) will "cause" (or be related to) an increase in communication -- an increase which would not occur had no third party been present.

However, resolution of conflict is another matter. It seems that a third party has little differential effect on the resolution of conflict (in the form of reaching agreements). It is possible that our assumption that an increase in communication would lead to resolution of conflict is based on a prior, and incorrect, assumption that communication is the exchange of 'true' information and is an indication of 'goodwill', in a sense. As Krauss & Deutsch (1966) pointed out, this is not necessarily, nor even likely, to be the case.

Therefore, unlike the case involving communication, I cannot confidently say that the mediator by his 'presence' is a catalytic agent as regards conflict resolution. It appears that by increasing communication he just makes the conflict more verbally apparent. The resolution (agreement) that is reached when the mediator is present,

despite variations in his location and activity, seems likely to have been reached in the same amount of time without him present.

#### B. Suggestions for Further Research

Several areas of study present themselves as interesting for future research. While a definite trend is apparent in the findings of this research, it is quite possible that the findings would not hold up under another set of subjects. The restriction of this research to females within a particular age range, while limiting the degree to which we can generalize our findings, presents itself as a challenge. Studies involving males, various age categories, ethnic backgrounds, etc. may provide much needed insight into interpersonal bargaining.

Further, since individuals come into contact with numerous other individuals in their day-to-day living, their behavior when in interaction with one person is likely to be affected by their prior experiences. An interesting extension of this research would be to analyze the differential effect of third party intervention, when subjects bargain with more than one person (i.e. after bargaining with one subject, the subject bargains with a second subject under the same third party condition or under a different condition). Various combinations of third party intervention could be appropriately incorporated in the study.

While the research envisioned by these suggestions appears

feasible on the basis of the experimental procedures of this study, its (the research's) actualization is admittedly contingent upon the evolution of a more elaborate theoretical base, and, therefore, must be allocated to the more distant future.

## FOOTNOTES.

<sup>1</sup> The concept, "mediation", as commonly defined, includes three aspects:

- "1.) to occupy an intermediate place or position; esp., to form a connecting link or a transitional stage between other things;
- 2.) to act between parties in order to effect an agreement, compromise or reconciliation;
- 3.) to effect (a result), convey (a gift), communicate (knowledge), etc., as or by an intermediary or medium."

(Italics mine)

(New Century Dictionary, p. 1035, 1036)

A study of mediation in labour relations research might emphasize the second aspect -- the facilitation of an agreement, compromise or reconciliation. This study, which takes a sociological tack, on the other hand, will be mainly concerned with "occupancy of a position" and "communication" as these aspects may affect "reconciliation".

<sup>2</sup> By ease I refer to the fact that someone has been explicitly assigned the role of 'mediator' and therefore we can clearly observe his actions as mediator.

<sup>3</sup> There is one further area of study that is especially concerned with the influence that a third party might produce on behavior, although the concern is not limited to 'third party' intervention but is extended to the more general 'added party' intervention. This area of study deals with methods of research and with obtrusive behavior on the part of the researcher (Leik, 1972; Webb, Campbell, Schwartz & Sechrest, 1966). These writers acknowledge that a researcher can produce what Webb et al. term "a guinea pig" effect. My research (as well as analyzing the substantive problem of the structure of mediation) is also related to methodological studies of this 'guinea pig' or 'observer' effect.

<sup>4</sup> In an attempt to gain some insight into these complex dynamics, I have taken Walton's model of mediation, communication, and tension and considered it in light of several ideas and findings presented by Schacter (1951) and Emerson (1966). See appendix (part A) for this analysis.

<sup>5</sup> Among the assumptions upon which this game is based are those outlined by Bartos, 1972. As he puts it, "(1) a person must choose one course of action from among several mutually exclusive courses available to him, wherein each course of action leads to particular outcomes; (2) he has preferences among these outcomes; (3) he is motivated to try to obtain preferred outcomes; and (4) no social or personal restrictions on his level of aspiration are present, that is we assume that actor is motivated to maximize personal gain and not bound [in the instructions] by considerations such as "one must try to obtain only what is proper to one's position". (Bartos, 1972. p. 21).

<sup>6</sup> Subjects using the 'A' profit schedule (from here on referred to as A subjects) met together for standardized general instructions, as did subjects using the 'B' profit schedule (from here on referred to as B subjects). Subjects had been randomly assigned to position A or B prior to the experimental session.

<sup>7</sup> Subjects had been randomly assigned to conditions of third party intervention prior to the experimental session. Eight sessions of each of the four conditions of the independent variable were run successfully. No subject participated in more than one session.

<sup>8</sup>By limiting our analysis of communication to 'number of offers' we are putting very strict binds on the abstract term 'communication'. In the recorded bargaining sessions we have available a myriad of verbal communications (i.e. "No way." "Are you crazy?", "I have a tribe to feed, you know.", "What's the matter -- you got money problems?") -- all this, which we are not making use of, but which could plausibly be affected by third party intervention. We are already limited in that the taperecording cannot convey any physical communication. As well, it is quite possible that the 'number of offers' setup is less likely to be affected by third party intervention since the comments were task-oriented while the other verbal communication portrayed more of the 'emotional' information of the communication. However, within the confines of financial and time limitations the use of 'number of offers' is a manageable and relatively consistent indicator of amount of communication.

<sup>9</sup>We are assuming that if an agreement is reached that it is satisfying to both parties in comparison to a choice of 'no agreement'.

<sup>10</sup>The term 'second half' refers to the bargaining, offers, agreements, etc., which occur after the third party has arrived (i.e. the second half of the bargaining game).



<sup>11</sup>All tables and figures referred to in this chapter are found at the end of this chapter.

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APPENDIX  
PRE-EXPERIMENTAL RATIONALE

A. Schacter, Emerson, and Walton: A Model of Mediation, Communication, and Tension.

While the three writers, Yager, 1953, Knowles, 1958, and Walton, 1969, made explicit connections between communication, bargaining and mediation, their approach has diverged from the more traditional bargaining studies which dot the field of group dynamics and which brought into the limelight such writers as Caplow and Gamson. In the area of group dynamics have been other writers who, while not concerned with bargaining per se, did concern themselves with matters such as social influence and social control ... areas which seem tenuously related to bargaining but which in fact underly much of the work in the area of bargaining, coalition and power processes. It is with these studies which we will concern ourselves in this section, for they have a place in the clarification of mediation and bargaining process.

Schacter's study "Deviation, Rejection and Communication", as you may recall, dealt with groups of students who were brought together to form various clubs. On their first meeting they were asked to help the experimenter solve a problem presented in the form of a 'Johnny Rocco' case -- the story of a juvenile delinquent now

awaiting sentence for a crime he is purported to have committed. One of the group members was a confederate who disagreed with the members' decision on what treatment Johnny Rocco was to receive. He maintained this 'deviant' position in relation to the other group members throughout the experiment. Another confederate, the 'slider' also took this deviant position but let himself be influenced and gradually accepted the group norm. Schacter measured rejection of the deviates in the form of nominations to committees and sociometric tests. He also recorded the communication that occurred in the group discussions.

The following findings are relevant: 1.) strong rejectors reach their peak of communication towards the deviate at about the 15 to 25 minute mark (of a 45 minute discussion); 2.) mild rejectors 'peak' somewhat later, then decline, and; 3.) non-rejectors, generally reach their peak latest, near the end of the session. The same relationship between the three types of rejectors held but at a different level of communication depending on what combination of two variables characterized the groups: (a) the degree of cohesiveness, and (b) the relevance of the issue.

By combining the levels of these variables we end up with four types of groups:

1. high cohesive, relevant issue (HiCoRel)
2. low cohesive, relevant issue (LoCoRel)
3. high cohesive, irrelevant issue (HiCoIrrel)
4. low cohesive, irrelevant issue (LoCoIrrel)



It is not too far-fetched to assume that the group made up of a marital pair, or the group comprised of family members, would be characterized by high cohesiveness and that if a dispute or conflict were to arise it would concern a relevant issue (at least it would be relevant as perceived by the participating parties). Therefore, the group is characterized by the first designation (HiCoRel). The labor-management combination is likely to be less cohesive, but to be characterized by concern with relevant issues and therefore would fit the second type (LoCoRel).

In the research reported in this thesis the pairs appear largely to be 'low cohesive' and the issue, 'irrelevant'. However, some of the pairs were composed of girlfriends and thus may be highly cohesive. Also, the intensity with which bargaining took place suggests that the issue may have been more relevant than was originally thought. Thus, the paired subjects probably encompassed all of Schacter's types: HiCoRel, LoCoRel, HiCoIrrel, LoCoIrrel.

The pattern found in Schacter's study was especially pronounced in the HiCoRel condition. However, the relationship between time and amount of communication holds for all four types of groups.

When two people are in dispute over some issue, each one considers the other to be the deviate. Each will attempt, as did the members of Schacter's groups, to minimize the differences between himself and the other, and one way of doing this is by communicating

so as to change the opinion of the other toward the issue involved. I assume that there is some value in achieving agreement, whether it be best explained in terms of Schacter's concept of 'validation of social reality' (also Festinger, 1950), in terms of Lewin's 'movement toward a group goal' (Lewin, 1951), or in terms of Homans' 'maximization of profit' (Homans, 1961).

So long as communication is maintained, agreement is still a possibility. Schacter found that after 15 to 25 minutes the amount of communication directed toward the deviate reached its peak, after which time it decreased. He suggests that the communicator perceived that there was little if any chance that the deviate would change his opinion, and, therefore, that one was wasting his time attempting to influence him. Homans' analysis is especially relevant here. He would say that when an activity (communication) fails to be rewarded or reinforced (opinion of the deviate did not change) it is likely to be stopped. (Homans, 1961).

The question now is 'Why do we rely on communication for agreement or for resolution of a dispute?' For this answer we turn to work by Emerson (1966) on 'negative feedback'. We have made the assumption that for effective mediation and thus effective bargaining there must be a desire on the part of both parties to maintain or achieve agreement. Whether their common interest lies in the desire to avoid 'world destruction' on the international level, or the 'avoidance of strike' on the industrial level, or the 'maintenance

of marriage' (or friendship) on the interpersonal level, there is, in fact, this common end -- this 'group goal' (in Lewin's term). So long as this goal remains visible and possible, activity will be directed at its achievement.

'Negative feedback' amounts to toying with the 'certainty' of achieving the group goal. Emerson found that one means of mobilizing energy to achieve a goal, was to make the goal outcome uncertain. That is, the greater the uncertainty of goal outcome, the greater the energy mobilization.

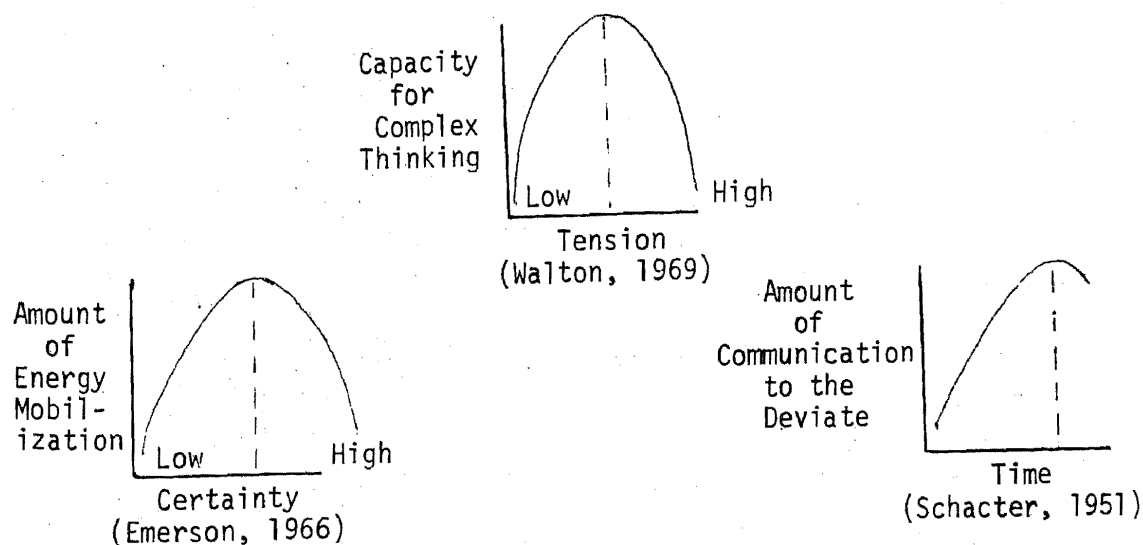
In our context, if the dyad members were certain of reaching agreement or certain of failure they would not be concerned with energy mobilization. It is at this point that the mediation process begins to be relevant. 'Negative feedback' refers to the contribution of information which is opposite in its effect on the members' attitudes toward goal outcome. If one dyad member makes an optimistic remark, the other dyad member makes a pessimistic one. A stalemate exists when both dyad members are contributing pessimistic remarks. (When both are optimistic they are presumably about to agree.)

We will assume that when one or both members decide to stop their communication, that their level of certainty of not achieving the group goal is very high. To the extent that a third party can provide negative feedback or can provide incentive for the dyad members to provide it, he is manipulating the uncertainty of outcome in a way that mobilizes energy for the accomplishment of the group

goal.

It is well to note here the previous suggestion that the mere presence of a third party may have the effect of getting the dyad members to communicate at an effective level. What we are testing in the research reported here is this 'incentive' for the dyad members to communicate on the basis of the 'mere presence' of the third party.

It is interesting that Walton's (1969) tension-productivity dimension be used in the context of collective bargaining and mediation, for the concept of uncertainty and energy mobilization (negative feedback) appears very similar to this dimension. Not too distant also is the communication paradigm just illustrated in Schacter's consideration of deviation, rejection and communication. While not incorporating exactly the same dimensions, these approaches do appear interrelated. It is plausible that certainty of goal outcome and tension reflect a similar dimension and that in the context of a dispute, communication is the medium by which the level of certainty or tension is made known. Communication is a visible reflection of capacity for complex thinking as well as an indication that energy has been mobilized. (See diagram below)



Keeping the above ideas in mind, we find that several aspects of third party 'presence' seem to parallel those of active third party intervention and seem to be incorporated in the three aspects of mediation as suggested in the definition of the verb 'to mediate' given in our first footnote.

Pressure to agree and/or audience or observer effect appears to correspond to the conscious provision of negative feedback. Both have some degree of stress attached to them. This stress or pressure induces energy mobilization leading to more effective communication. The more effective communication is achieved through

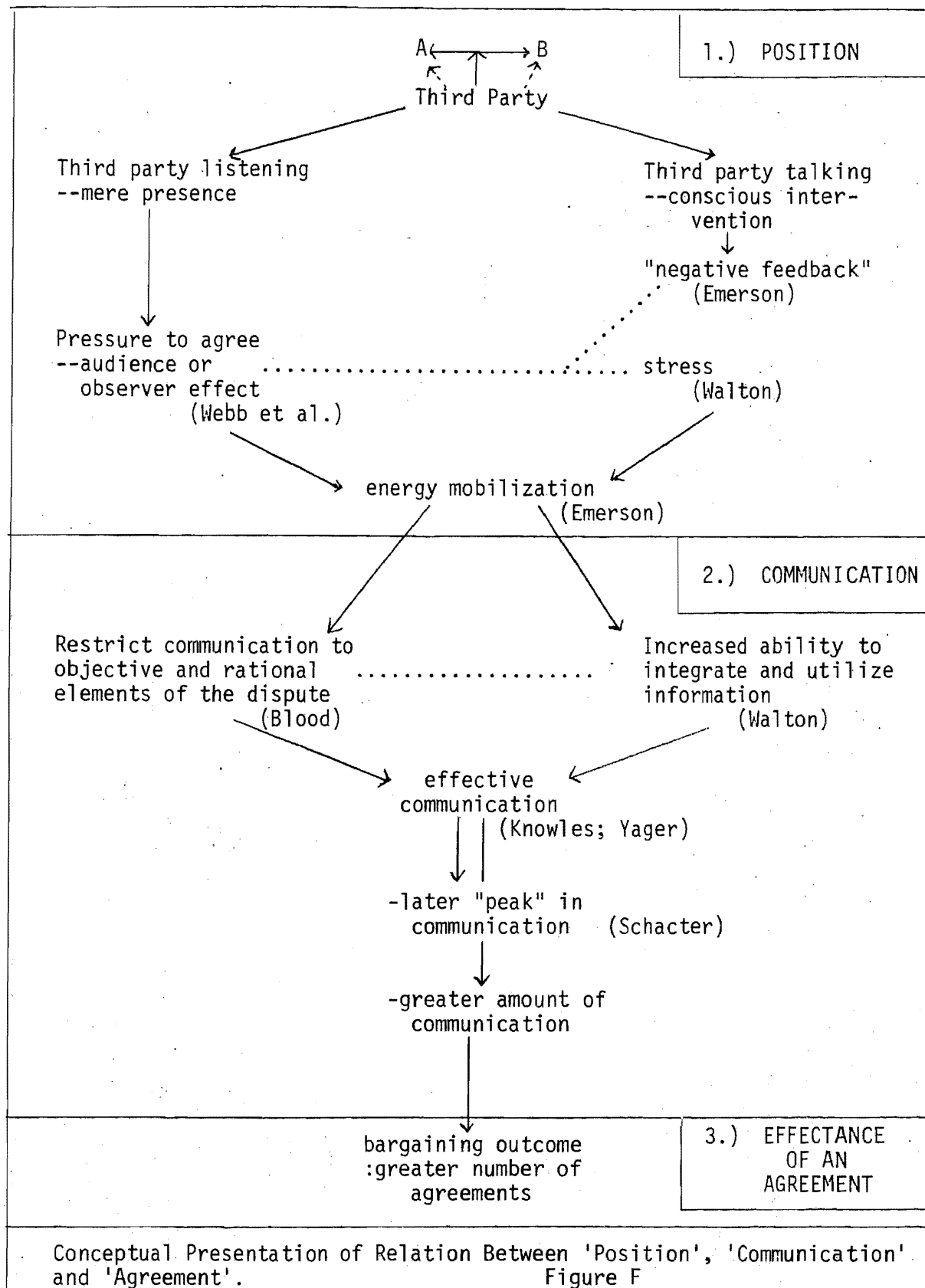
(a) restriction of communication to the rational, objective, etc.; and through

(b) increased ability to integrate and utilize information.

I assume that this onset of effective communication will affect:

- 1.) the point at which 'communication' peaks as an indication of later rejection of each other by the bargaining parties;
- 2.) the bargaining outcome in light of the number of agreements reached by the bargaining pair in a bargaining session.

(See Figure F for a conceptual presentation of this relation between position, communication, and agreement in the context of mediation).



## APPENDIX

## B. BARGAINING GAME INSTRUCTIONS \*

PURPOSE OF THE GAME

You will be participating in an experimental study of bargaining behavior. You can win an amount of money if you get higher total points than any other student playing the game after having first achieved higher points than your partner. The amount of points you make will depend upon your skill and effort as a 'bargainer' and in part upon luck. An entire experimental session, not including the instruction period, is estimated to take about one hour.

## THE BARGAINING GAME

EXCHANGE

This game involves trade and barter. Imagine that you are a village chief and your village wishes to trade some of its barley crop to another village for some of its rice crop. Your job in the game is to negotiate the most favorable agreements (i.e. the most profitable ones) you can in behalf of your village. There are 2 villages, each of which is represented by its chief, and there are 4 different (hypothetical) crops involved in this exchange game. Each chief has two crops to trade. A chief is identified by the letter A or the letter B. Her crops are identified by color.

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\*The amounts that are included here and the colors referred to are for A subjects. These were changed on the B subjects' instructions to correspond with B's profit schedule.

## THE PROFIT SCHEDULE

You will have profit schedules like the model schedules found with these instructions. Your activities in the game will revolve around such schedules. As you read through these instructions you should refer often and closely to the model profit schedules. Look at them now.

You should assume that you are A, who has red and yellow crops, who can trade with B, who has blue and green crops.

1. Possible Agreements. Notice down the left side of the profit schedule under the heading "Possible Agreements"; there are four arrays of numbers. Each horizontal pair of numbers in these columns, for example 21-80 or 48-53, or any other such pair, is a possible exchange agreement you and your partner may arrive at on a given occasion. Numbers under the "I give" subheading represent the number of units of your crops (i.e. units of red; units of yellow) to be exchanged for the corresponding number of units of your partner's crops (i.e. units of blue; units of green). Thus, all transactions in this game involve 'payment in kind'. That is, B buys some of your 'red' (crop) by giving you some of her 'blue' (crop) rather than money, or she buys some of your 'yellow' (crop) by giving you some of her 'green' (crop). Likewise, you (A) buy some of B's blue by giving her some of your red, or you buy some of her green by giving her some of your yellow. However, while money is not used, the other chief's crops have some value to you. If you get higher total



profit points than your partner, you will be able to use your profit points to compete for a cash prize. If you do not get higher total profit points then you cannot compete. The value to you of any given exchange agreement is indicated by the number of profit points associated with that agreement.

2. Achieving Profit. Over the third column is the heading 'MY PROFIT -- when I exchange red for blue'. Numbers in this column are the profit points that you can make through arriving at agreements with your partner using red and blue crops. For example, on the model schedule for your transactions with B, if you give 37 of your red for 24 of B's blue crop, you get 1 profit point.

Over the fourth column is the heading 'MY PROFIT -- when I exchange yellow for green'. Numbers in this column are the profit points that you can make through arriving at agreements with your partner using yellow and green crops. For example, on the model schedule for your transactions with B, if you give 26 of your yellow for 35 of B's green crop, you get 20 profit points. Note that different crops (colors) have different value to you. The profit points for various possible agreements will be different as shown in the different 'MY PROFIT' columns. Therefore, while trading crops you should always watch your profit columns as a guide during bargaining. Your job as chief is to maximize the profit obtained for your village. You might be willing to settle for 1 profit point if that is all you can get, for 1 is better than no agreement if you feel that you have

made more points than your partner. But your task as an effective bargainer is to negotiate settlements for your village that will give you as much profit as possible.

Note: Suppose you exchange 28 red for 33 blue. Your profit for the transaction is 10. You will not know what your partner's profit is: it might be 12.

3. A WORD ON STRATEGY. Do not show your partner your profit schedule. You will not know how many profit points your partner obtains in an agreement, unless she tells you -- (and tells you the truth!) If you can guess what her true profit is then you have an advantage. It is to your advantage to learn what her profit is, while at the same time deceiving her about your profit. But many people would rather not engage in such efforts to deceive. It is best to simply (a) keep your own profit schedule to yourself; (b) accept the best offers you can get; and (c) reject offers which you think can be improved.

4. Transaction Periods: Timing the Game. There are a set of 10 columns under the heading "TRANSACTION PERIODS" on the profit schedule sheet. Each of these columns corresponds to a 5 minute time interval (which defines a transaction period) to be measured by the minute hand on the alarm clock located in your room. As soon as the clock's minute hand enters the first period, the game will begin, and you may engage your partner in negotiations. The clock and transaction period columns on your schedule will help

you keep track of the progress of the game, and will keep you posted as to the current bargaining period.

Follow these rules carefully:

Rule 1. You may make only two trade agreements each transaction period: one exchanging red and blue crops; one exchanging yellow and green crops.

Rule 2. A trade agreement is valid only for the period during which it was agreed upon.

Rule 3. Wait until the clock's minute hand enters a period before making agreements for that period.

The game will be played in segments of 10 transaction periods. After the first 5 transaction periods (25 minutes) there will be a brief rest break lasting one period (5 minutes). There is a red-colored section on the clock diagram to help you notice when to stop the game for a rest break. The entire experimental session will last 55 minutes. Thus, you have a total of 20 opportunities to obtain profit during the experiment (10 exchanging red and blue; 10 exchanging yellow and green). Form agreements during as many of the transaction periods as you can, so that (should you have higher profit points than your partner then) you will have attained enough points to be in a competitive position for the cash prize.

5. Negotiating Exchange Agreements. When bargaining with a partner, converse by offering units of your color. Keep the conversation short and to the point, for the time is limited. There

are two concise ways to reply to an offer:

- (a) I refuse your offer.
- (b) I accept your offer. (Confirm the period of agreement, the terms arrived at, and record the agreement as explained in the section to follow.)

Since you have only 5 minutes to make two agreements, it is a good idea to make efficient use of words. A given transaction might go as follows when person A makes an offer to person B:

A: I'm offering 23 red for 38 blue.

B: Sorry, but I was hoping for 36 red for 25 blue.

A: (After checking his profit on his 36 red for 25 blue),  
O.K., we agree. That's 36 red for 25 blue, in period 4,  
right?

B: Right.

6. Recording Agreements. Notice on each schedule the columns which represent transaction periods. If you form an agreement during period 2, giving 31 red for 30 blue, then put 31 R/30 B in column 2  
(7)

(in the column under 2 which is entitled 'R for B'). If you form an agreement during period 2 by exchanging yellow for green, record it under column 2 (in the column under 2 which is entitled 'Y for G').

Note: an agreement is valid (for later consideration in total profit points) only if both parties to an agreement have made accurate records in the columns on their profit schedule sheet.

7. Use of Rest Periods. Use the rest period after each set of 5 transaction periods to total and record: (a) the number of profit points, and (b) the number of agreements made during that segment of the game. DO NOT TALK TO EACH OTHER DURING THIS TIME! Notice at the top of each model schedule the headings "First half-hour's profit is \_\_\_\_ in \_\_\_\_ agreements" and "second half-hour's profit is \_\_\_\_ in \_\_\_\_ agreements". Record profit and agreement totals in these spaces. If during the rest period you do not have enough time to total your profit points, just leave it and after the entire session is done you will have lots of time.

8. Reminder of the Rest Period. I will send one of the students helping me in at the halfway point (after the first 5 transaction periods) to remind you that this is a rest period. She will also adjust the taperecorder and begin it again for the next half of the session. This person may remain for the next 5 transaction periods or she may not. To avoid wasting time, we would ask you not to talk to the person who comes in to remind you of the rest period.

9. Payment. By participating in this study you may win \$10.00, \$8.00, or \$5.00. Your chance of winning depends in part upon your bargaining and in part upon luck. You must get total points greater than your partner before you will be considered for the cashprize. Thus, you may not want to make an agreement if you think your partner's profit points for that agreement are higher than yours.

10. Recording Conversations. Since we are interested in learning how people bargain, we will be recording your conversations.

(Recording will also be used for validating transactions made.)

I have RED and YELLOW.  
 She has BLUE and GREEN.  
 I can exchange RED for BLUE.  
 I can exchange YELLOW for GREEN.

First half-hour's  
 profit is \_\_\_\_\_  
 in \_\_\_\_\_ agreements.

POSSIBLE AGREEMENTS				TRANSACTION PERIODS							
The no. of red or yellow "I give" to her	The no. of blue or green "she gives" to me	MY PROFIT when I exchange RED for BLUE	MY PROFIT when I exchange YELLOW for GREEN	1		2		3		4	
				R for B	Y for G	R for B	Y for G	R for B	Y for G	R for B	Y for G
1	60	37	45								
2	59	36	44								
3	58	35	43								
4	57	34	42								
5	56	33	41								
6	55	32	40								
7	54	31	39								
8	53	30	38								
9	52	29	37								
10	51	28	36								
11	50	27	35								
12	49	26	34								
13	48	25	33								
14	47	24	32								
15	46	23	31								
16	45	22	30								
17	44	21	29								
18	43	20	28								
19	42	19	27								
20	41	18	26								
21	40	17	25								
22	39	16	24								
23	38	15	23								
24	37	14	22								
25	36	13	21								
26	35	12	20								
27	34	11	19								
28	33	10	18								
29	32	9	17								
30	31	8	16								
31	30	7	15								
32	29	6	14								
33	28	5	13								
34	27	4	12								
35	26	3	11								
36	25	2	10								
37	24	1	9								
38	23	0	8								
39	22	-1	7								
40	21	-2	6								
41	20	-3	5								
42	19	-4	4								
43	18	-5	3								
44	17	-6	2								
45	16	-7	1								
46	15	-8	0								
47	14	-9	-1								
48	13	-10	-2								
49	12	-11	-3								
50	11	-12	-4								
51	10	-13	-5								
52	9	-14	-6								
53	8	-15	-7								
54	7	-16	-8								
55	6	-17	-9								
56	5	-18	-10								
57	4	-19	-11								
58	3	-20	-12								
59	2	-21	-13								
60	1	-22	-14								

(See p. 62 for right side of profit schedule)

I have BLUE and GREEN.  
 She has RED and YELLOW.  
 I can exchange BLUE for RED.  
 I can exchange GREEN for YELLOW.

First half-hour's  
 profit is \_\_\_\_\_  
 in \_\_\_\_\_ agreements.

## POSSIBLE AGREEMENTS

## TRANSACTION PERIODS

The no. of blue or green "I give" to her	The no. of red or yellow "she gives" to me	MY PROFIT when I exchange BLUE for RED	MY PROFIT when I exchange GREEN for YELLOW	1		2		3		4	
				B for R	G for Y	B for R	G for Y	B for R	G for Y	B for R	G for Y
1	60	35	25								
2	59	34	24								
3	58	33	23								
4	57	32	22								
5	56	31	21								
6	55	30	20								
7	54	29	19								
8	53	28	18								
9	52	27	17								
10	51	26	16								
11	50	25	15								
12	49	24	14								
13	48	23	13								
14	47	22	12								
15	46	21	11								
16	45	20	10								
17	44	19	9								
18	43	18	8								
19	42	17	7								
20	41	16	6								
21	40	15	5								
22	39	14	4								
23	38	13	3								
24	37	12	2								
25	36	11	1								
26	35	10	0								
27	34	9	-1								
28	33	8	-2								
29	32	7	-3								
60	1	-24	-34								

(See p. 62 for right side of profit schedule)



